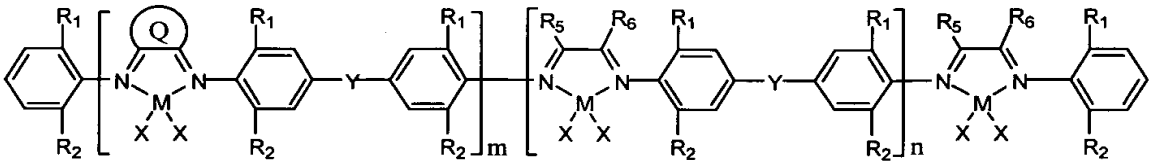
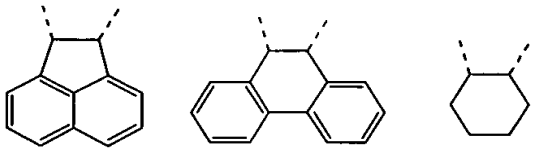
ABSTRACT

The present invention provides a polynuclear α -diimine Ni(II) complex used as the precursor of the catalyst in polymerizing polyolefine, represented by the following formula:



wherein M is Ni; X is Cl or Br; m and n is independently an integer from 0 to 100, respectively; R_1 and R_2 is the same or different, and is selected from the group consisting of H, methyl, ethyl, isopropyl and tert-butyl; Y is CR_3R_4, wherein R_3 and R_4 is the same or different, and is selected from the group consisting of H, methyl, ethyl, propyl, butyl and phenyl, or R_3 and R_4 forming a cyclic alkyl group; R_5 and R_6 is the same or different, and is selected from the group consisting of methyl, ethyl, propyl and heterocyclic group; Q is a cyclic divalent residual group of the following formula or a mixture thereof:



The compound of this invention can be used to catalyze the polymerization of ethylene and to prepare high molecular weight branched polyethylene.